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☐ 1: Schweiz Med Wochenschr 1997 Feb
1;127(5):158-64

Related Articles, Books,
LinkOut

PubMed Services

Aerosol therapy in patients with cystic fibrosis.

Schoni MH, Nikolaizik WH.

Alpine Children's Hospital, Davos.

Related Resources

Aerosol therapy is one of the mainstays of treatment, together with regular physiotherapy, in patients with cystic fibrosis. Inhalation can contribute to hydration of the epithelial lining fluid as well as delivering different drugs directly to the lungs. Topically administered antibiotics can protect the lungs from Pseudomonas infection, recombinant DNase, amiloride and beta-agonists can have a positive effect on the mucociliary clearance, and steroid inhalations can reduce inflammation. Therefore, all these drugs are part of a comprehensive treatment strategy contributing to improvement in lung function and quality of life. Gene therapy and pharmacological correction of the chloride channel defect are perspectives for the future. Aerosol therapy, however, is somewhat cumbersome and requires strict patient education.

Publication Types:

- Review
- Review, tutorial

PMID: 9042684 [PubMed - indexed for MEDLINE]

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(FILE 'HOME' ENTERED AT 13:27:40 ON 12 JUL 2001)
SEARCH UPDATE FOR 09/330,903 7/17/01

FILE 'MEDLINE' ENTERED AT 13:28:12 ON 12 JUL 2001
L1 19422 S CYSTIC FIBROSIS
L2 594 S L1 AND GENE THERAPY
L3 35 S L2 AND AEROSOL?

FILE 'STNGUIDE' ENTERED AT 13:44:49 ON 12 JUL 2001

FILE 'MEDLINE' ENTERED AT 14:02:38 ON 12 JUL 2001
L4 9 S ELASTASE AND ANTISENSE

FILE 'BIOSIS, EMBASE, CAPLUS' ENTERED AT 14:04:29 ON 12 JUL 2001
L5 40 S L4
L6 30 DUP REM L5 (10 DUPLICATES REMOVED)

FILE 'STNGUIDE' ENTERED AT 14:06:26 ON 12 JUL 2001

FILE 'STNGUIDE' ENTERED AT 14:12:09 ON 12 JUL 2001

FILE 'MEDLINE' ENTERED AT 14:27:27 ON 12 JUL 2001
L7 135 S AEROSOL AND (CONDENS? OR POLYCATION OR POLYLYSINE
OR PROTAMIN
L8 5 S L7 AND (DNA OR RNA OR POLYNUCLE? OR PLASMID OR
VECTOR)

FILE 'BIOSIS, CAPLUS, EMBASE' ENTERED AT 14:32:19 ON 12 JUL 2001

=> s l8

L9 41 L8
L10 29 DUP REM L9 (12 DUPLICATES REMOVED)

FILE 'MEDLINE' ENTERED AT 07:01:03 ON 13 JUL 2001
L1 8 S AEROSOL AND OLIGONUCLEOTIDE AND LUNG

FILE 'CAPLUS, EMBASE, BIOSIS, BIOTECHDS' ENTERED AT 07:03:17 ON 13
JUL
L2 43 L1
L3 28 DUP REM L2 (15 DUPLICATES REMOVED)

(FILE 'HOME' ENTERED AT 07:56:27 ON 13 JUL 2001)

FILE 'MEDLINE' ENTERED AT 07:56:33 ON 13 JUL 2001

L1 3 S AEROSOL AND ANTISENSE AND (LUNG OR RESPIRAT? OT
TRACH?)

FILE 'CAPLUS, EMBASE, BIOSIS, BIOTECHDS' ENTERED AT 07:57:34 ON 13
JUL
2001

L2 34 S L1
L3 26 S L2 AND OLIGONUCLEOTIDE
L4 20 DUP REM L3 (6 DUPLICATES REMOVED)
L5 4463 S AEROSOL AND (CONDENS? OR POLYCATION OR POLYLYSINE
OR PROTAMIN

FILE 'MEDLINE' ENTERED AT 08:02:08 ON 13 JUL 2001
L6 136 S L5
L7 5 S L6 NOT CONDENS?
L8 0 S PROTAMIN AND AEROSOL
L9 3 S PROTAMINE AND AEROSOL?

FILE 'CAPLUS, EMBASE, BIOSIS' ENTERED AT 08:11:17 ON 13 JUL 2001
L10 22 S L9
L11 15 DUP REM L10 (7 DUPLICATES REMOVED)
L12 41 S AEROSOL AND (POLYCATION OR POLYLYSINE OR POLY-L-
LYSINE OR PRO

FILE 'STNGUIDE' ENTERED AT 08:21:12 ON 13 JUL 2001

(FILE 'HOME' ENTERED AT 09:21:16 ON 13 JUL 2001)

FILE 'MEDLINE' ENTERED AT 09:21:23 ON 13 JUL 2001
L1 0 S OLIGONUCLEOTIDE AND (AERSOL? OR NUBULI?) AND (LUNG
OR RESPIRA
L2 10 S OLIGONUCLEOTIDE AND (AEROSOL? OR NUBULI?) AND (LUNG
OR RESPIR

(FILE 'HOME' ENTERED AT 08:30:49 ON 16 JUL 2001)

FILE 'MEDLINE' ENTERED AT 08:30:55 ON 16 JUL 2001
L1 11 S CFTR AND AEROSOL

FILE 'STNGUIDE' ENTERED AT 08:37:52 ON 16 JUL 2001

FILE 'MEDLINE' ENTERED AT 08:51:45 ON 16 JUL 2001
L2 0 S AEROSOL AND RIBOZYME

L3 25 S RIBOZYME AND LUNG
L4 0 S AEROSOL? AND RIBOZYME

FILE 'CAPLUS, EMBASE, BIOSIS, BIOTECHDS' ENTERED AT 08:53:48 ON 16
JUL
2001

L5 11 S L4
L6 11 DUP REM L5 (0 DUPLICATES REMOVED)

FILE 'STNGUIDE' ENTERED AT 08:56:53 ON 16 JUL 2001

FILE 'MEDLINE' ENTERED AT 08:57:17 ON 16 JUL 2001
L7 9 S ELASTASE AND ANTISENSE
L8 0 S L7 AND AEROSOL?

FILE 'CAPLUS, EMBASE, BIOSIS, BIOTECHDS' ENTERED AT 08:57:56 ON 16
JUL
2001

L9 2 S L8

FILE 'STNGUIDE' ENTERED AT 08:58:33 ON 16 JUL 2001

(FILE 'HOME' ENTERED AT 09:20:54 ON 16 JUL 2001)

FILE 'MEDLINE' ENTERED AT 09:21:20 ON 16 JUL 2001
L1 0 S GONDA/AU AND AEROSOL?
L2 2 S GONDA AND AEROSOL?
L3 448 S AEROSOL? AND CAPACITY AND RESPIRATORY
L4 86 S L3 AND TOTAL
L5 6 S L4 AND RESPIRATORY (5A) CAPACITY
L6 0 S TOTAL RESPIRATORY TRACT CAPACITY
L7 3 S TOTAL RESPIRATORY CAPACITY

FILE 'STNGUIDE' ENTERED AT 09:28:50 ON 16 JUL 2001

(FILE 'HOME' ENTERED AT 13:34:54 ON 16 JUL 2001)

FILE 'MEDLINE' ENTERED AT 13:35:00 ON 16 JUL 2001
L1 105 S AEROSOL AND (LUNG OR RESPIRATORY) AND (IMMUNE OR
IMMUNIZ?) AN
L2 2 S L1 AND PLASMID
L3 7 S L1 AND VECTOR
L4 92 S L1 AND (VIRAL OR VIRUS)
L5 9 S L1 NOT L2-L4

(FILE 'HOME' ENTERED AT 14:18:31 ON 16 JUL 2001)

FILE 'MEDLINE' ENTERED AT 14:18:35 ON 16 JUL 2001

L1 3 S (RIBOZYME OR ANTISENSE) AND AEROSOL

FILE 'CAPLUS, EMBASE, BIOSIS' ENTERED AT 14:19:27 ON 16 JUL 2001

L2 45 S L1

L3 39 DUP REM L2 (6 DUPLICATES REMOVED)

L4 13 S (RIBOZYME OR ANTISENSE) AND NEBULIZ?

L5 12 DUP REM L4 (1 DUPLICATE REMOVED)

FILE 'STNGUIDE' ENTERED AT 14:28:30 ON 16 JUL 2001

FILE 'MEDLINE' ENTERED AT 14:31:54 ON 16 JUL 2001

L6 975 S AEROSOL AND VITRO

L7 10 S L6 AND TRANSFEC?

FILE 'CAPLUS, EMBASE, BIOSIS, BIOTECHDS' ENTERED AT 14:37:10 ON 16
JUL
2001

L8 21 S L7

L9 11 DUP REM L8 (10 DUPLICATES REMOVED)

(FILE 'HOME' ENTERED AT 06:17:46 ON 17 JUL 2001)

FILE 'MEDLINE' ENTERED AT 06:18:00 ON 17 JUL 2001

L1 22 S AEROSOL AND TRANSFEC?

L2 648 S RIBOZYME AND VITRO

L3 2 S L2 AND (AERO? OR NEBULIZ?)

L4 8 S L2 AND LUNG

L5 27 S RIBOZYME AND (CONDENS? OR POLYCATION OR POLYLYSINE
OR SPERMID

FILE 'STNGUIDE' ENTERED AT 06:43:22 ON 17 JUL 2001

FILE 'MEDLINE' ENTERED AT 06:51:15 ON 17 JUL 2001

L6 87 S RIBOZYME AND TOOL

L7 48 S L6 AND EXPRESSION

L8 39 S L6 NOT L7

S #

Updt

Database

Query

	Time	Comment
S2347 U USPT		5795587.pn. and (antisense or ribozyme) 2001-07-17 08:59:47
S2346 U USPT		5795587.pn. and oligonucleotide 2001-07-17 08:59:15
S2345 U USPT		5994315.pn. and lipid 2001-07-17 08:54:42
S2344 U USPT		5994315.pn. and cation\$ 2001-07-17 08:50:22
S2343 U USPT		5994315.pn. and elastase 2001-07-17 08:22:03
S2342 U USPT		5994315.pn. 2001-07-17 08:21:04
S2341 U		

USPT

(antisense same
ribozyme same
aerosol) and
antisense same
oligonucleotide

2001-07-17

08:03:28

S2340

U

USPT

antisense same
ribozyme same
aerosol

2001-07-17

08:00:48

S2339

U

USPT

ribozyme same
aerosol inhalation

2001-07-17

07:51:50

S2338

U

USPT

(ribozyme same
aerosol\$) same
vitro

2001-07-17

07:20:52

S2337

U

USPT

(ribozyme and
aerosol\$).clm.

2001-07-17

07:17:13

S2336

U

USPT

ribozyme same
aerosol\$

2001-07-17

07:16:40

S2335

U
USPT

5639441.pn. and
antisense
2001-07-16
14:29:54

S2334
U
USPT

5639491.pn. and
antisense
2001-07-16
14:28:58

S2333
U
USPT

5756353.pn. and
cystic
2001-07-16
14:07:19

S2332
U
USPT

5756353.pn. and
cfr
2001-07-16
14:06:56

S2331
U
USPT

5497763.pn. and
alveoli
2001-07-16
13:27:26

S2330
U
USPT

5467763.pn. and
alveoli
2001-07-16
13:27:09

S2329
U
USPT

5795587.pn. and
aerosol\$

2001-07-16
12:24:49

S2328
U
USPT

5795587.pn. and
(polylysine or
polycation or
condens\$)

2001-07-16
12:21:46

S2327
U
USPT

5497763.pn. and
25 micron\$

2001-07-16
12:19:28

S2326
U
USPT

5756353.pn. and
(pore or
membrane)

2001-07-16
11:14:38

S2325
U
USPT,PGPB,JPAB,EPAB,DWPI
total respiratory
tract capacity

2001-07-16
09:30:14

S2324
U
USPT

5756353.pn. and
(dotap or dotma or
dc-chol)

2001-07-13
09:12:49

S2323
U
USPT

protamine and
aerosol and (ratio

same (nucleic or
polynucle\$))

2001-07-13

08:40:20

S2322

U

USPT

protamine sulfate
and aerosol and
(nucleic or
polynucle? or gene)
and lung

2001-07-13

08:31:26

S2321

U

USPT

protamine sulfate
and aerosol and
(nucleic or
polynucle? or gene)

2001-07-13

08:30:52

S2320

U

USPT

(protamine same
condens\$) and
aerosol

2001-07-13

08:23:43

S2319

U

USPT

protamine same
condens\$

2001-07-13

08:23:19

S2318

U

USPT

(total respiratory
tract) same
capacity

2001-07-13

07:54:01

S2317
U
USPT

respiratory tract
same capacity
2001-07-13
07:53:36

S2316
U
USPT

respiraory tract
same capacity
2001-07-13
07:53:29

S2315
U
USPT

total respiraory
tract capacity
2001-07-13
07:53:07

S2314
U
USPT

(5509404.pn. or
5660166.pn. or
5544646.pn.) and
total respiraory
tract capacity
2001-07-13
07:46:20

S2313
U
USPT

5509404.pn. or
5660166.pn. or
5544646.pn.
2001-07-13
07:45:53

S2312
U
USPT

5509404.pn.
or5660166.pn.
or5544646.pn.
2001-07-13

07:45:46

S2311

U

USPT

lloyd.in. and
aerosol and lung

2001-07-13

07:41:41

S2310

U

USPT

lloyd.in. and
aerosol

2001-07-13

07:41:26

S2309

U

USPT

5718222.pn. and
(nucleic or gene or
plasmid or dna or
rna or polynuc\$)

2001-07-13

07:40:43

S2308

U

USPT

5497763.pn. and
drug delivery
device

2001-07-13

06:54:01

S2307

U

USPT

5497763.pn. and
(channel same
opening)

2001-07-13

06:49:39

S2306

U

USPT

5497763.pn. and
channel same
opening

2001-07-13
06:49:30

S2305
U
USPT

5756353.pn. and
nebuliz\$

2001-07-13
06:27:40

S2304
U
USPT

5906202.pn. and
(nucleic or gene or
plasmid or dna or
rna or polynucl\$)

2001-07-13
06:20:51

S2303
U
USPT

5906202.pn. and
(nucleic or gene or
lasmid or dna or
rna or polynucl\$)

2001-07-13
06:20:35

S2302
U
USPT

5906202.pn. and
(0.5 to about 6)

2001-07-13
06:18:03

S2301
U
USPT

5906202.pn. and
(force or forced)

2001-07-13
06:05:50

S2300
U
USPT

5906202.pn. and
(pore same micron)

S #	Updt	Database	Query	Time	Comment
S2299	U	USPT	5906202.pn. and porous member	2001-07-13 05:59:22	
S2298	U	USPT	5906202.pn.	2001-07-13 05:58:43	
S2297	U	USPT	5906202.pn. and (disposable same porous)	2001-07-12 15:47:59	
S2296	U	USPT	5906202.pn. and disposable	2001-07-12 15:46:25	
S2295	U	USPT	(aerosol same viral envelope)	2001-07-12 15:34:52	
S2294	U	USPT			

(aerosol and viral
envelope).clm
2001-07-12
15:34:30

S2293
U
USPT

aerosol and viral
envelope and lung
2001-07-12
15:34:04

S2292
U
USPT

aerosol and viral
envelope
2001-07-12
15:33:49

S2291
U
USPT

aerosol and viral
envelope
2001-07-12
15:22:56

S2290
U
USPT

5756353.pn. and
antigen\$
2001-07-12
15:12:08

S2289
U
USPT

(aerosol same
nucleic) and
(nucleic same
polycation)
2001-07-12
15:05:37

S2288
U
USPT

aerosol and
(nucleic same

polycation)
2001-07-12
15:05:20

S2287
U
USPT

(aerosol and
nucleic and
polycation).clm.
2001-07-12
15:05:01

S2286
U
USPT

aerosol and nucleic
and polycation
2001-07-12
15:04:30

S2285
U
USPT

5849719.pn. and
liposom\$
2001-07-12
14:40:03

S2284
U
USPT

5849719.pn. and
lipid
2001-07-12
14:39:39

S2283
U
USPT

(aerosol and
nucleic).clm.
2001-07-12
14:24:50

S2282
U
USPT

(aerosol and
nucleic and
(polycation or
condens\$)).clm.

2001-07-12
14:24:10

S2281
U
USPT

(aerosol and
nucleic and
(polycation or
condens\$)),clm.

2001-07-12
14:24:02

S2280
U
USPT

5849719.pn. and
(condens\$ or
polylysine or
polycation\$)

2001-07-12
14:23:13

S2279
U
USPT

5849719.pn. and
(virus or viral)

2001-07-12
14:19:51

S2278
U
USPT

5948681.pn.

2001-07-12
13:24:38

S2277
U
DWPI

5948681.pn.

2001-07-12
13:24:07

S2276
U
DWPI

59418681.pn.

2001-07-12
13:23:59

S2275

U
DWPI

(cystic and aerosol
and nucleic)
2001-07-12
13:21:17

S2274

U
USPT,PGPB,JPAB,EPAB,DWPI
(cystic and aerosol
and nucleic).clm.
2001-07-12
13:20:58

S2273

U
USPT

(5756353.pn. or
5384128.pn.) and
cfr
2001-07-12
13:19:46

S2272

U
USPT

(5756353.pn. or
5384128.pn.) and
transmembrane
2001-07-12
13:14:37

S2271

U
USPT

5756353.pn. or
5384128.pn.
2001-07-12
13:14:23

S2270

U
USPT

(cystic and aerosol
and nucleic).clm.
2001-07-12
13:11:16

S2269

U
USPT

5906202.pn. and
lung

2001-07-12
11:17:23

S2268
U
USPT

5906202.pn. and
nucleic

2001-07-12
11:17:06

S2267
U
USPT

5906202.pn. and
(nucleic or
polynucle\$ or dna
or rna)

2001-07-12
11:16:56

S2266
U
USPT

5906202.pn. and
(nucleic or
polynucleo\$ or dna
or rna)

2001-07-12
11:16:33

S2265
U
USPT

5906202.pn. and
oligonucleotide

2001-07-12
11:13:50

S2264
U
USPT

5906202.pn. and
(dotma or dotap or
dc-chol)

2001-07-12
11:12:57

S2263
U

USPT

5906202.pn. and
antisense

2001-07-12
11:11:01

S2262

U

USPT

5906202.pn. and
ribozyme

2001-07-12
11:10:38

S2261

U

USPT

5906202.pn. and
cystic

2001-07-12
11:09:28

S2260

U

USPT

5906202.pn. and
naked

2001-07-12
11:08:09

S2259

U

USPT

5906202.pn. and
viral

2001-07-12
11:07:16

S2258

U

USPT

5906202.pn. and
cation

2001-07-12
11:06:42

S2257

U

USPT

5906202.pn. and
lipid

2001-07-12

11:06:32

S2256
U
USPT

5906202.pn. and
condens\$
2001-07-12
11:04:32

S2255
U
USPT

5906202.pn. and
polylysine
2001-07-12
11:04:22

S2254
U
USPT

5906202.pn. and
protamine sulfate
2001-07-12
11:04:05

S2253
U
USPT

5906202.pn. and
oligonucleotide
2001-07-12
11:03:38

S2252
U
USPT

5906202.pn. and
elastase
2001-07-12
11:03:14

S2251
U
USPT

5906202.pn. and
immunogenic
2001-07-12
11:02:04

S2250
U
USPT

5906202.pn. and
total respiratory
tract capacity
2001-07-12
10:53:42

S2249
U
USPT

5804566.pn. and
aerosol\$
2001-07-12
08:20:46

S2248
U
USPT

5804566.pn. and
nucleic
2001-07-12
08:19:03

S #	Updt	Database	Query	Time	Comment
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S2247	U	USPT	5697647.pn.	2001-07-12 08:17:40	
-------	---	------	-------------	------------------------	--

S2246	U	USPT	5697647.pn. and nucleic	2001-07-12 08:17:22	
-------	---	------	-------------------------	------------------------	--

S2245	U	USPT	5906202.pn. and anatom\$ dead space	2001-07-12 06:50:23	
-------	---	------	--	------------------------	--

S2244
U
USPT
5906202.pn. and antaom\$ dead
space
2001-07-12
06:50:15

S2243
U
DWPI
WO 9801161
2001-07-11
14:24:50

S2242
U
DWPI
illum.in.
2001-07-11
14:23:24

S2241
U
USPT
(codon near5 optimiz\$).clm.
2001-07-11
13:59:26

S2240
U
USPT
gonda.in. and respiratory
2001-07-11
07:37:10

S2239
U
USPT
gonda.in.
2001-07-11
07:36:48

S2238
U
USPT
anatomical dead space
2001-07-11
07:14:35